AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An infrared camera system comprising:

an infrared illumination source operable to transmit infrared optical energy in the direction of a subject when an ambient infrared light level is determined to be insufficient;

a lens configured to collect optical energy conveyed from ~~a~~the subject;

a filter providing a plurality of pass bands associated with different center wavelengths within an infrared portion of the electromagnetic spectrum, said filter being operable to pass filter optical energy collected by said lens in accordance with any selected one of its plurality of pass bands;

an optical detector operable to generate an electrical signal representing an image of the subject in response to optical energy collected by said lens, pass filtered by said filter in accordance with a desired pass band selectable from among the plurality of pass bands, and subsequently incident on said optical detector; and

a control device operable to select the desired pass band from among the plurality of pass bands provided by said filter.

2. (Original) The system of claim 1 wherein at least two of the pass bands of said filter overlap.

3. (Original) The system of claim 1 wherein none of the pass bands of said filter overlap.

4. (Original) The system of claim 1 wherein said filter comprises:

a plurality of separate filters having fixed pass bands; and

a switching device operable to interpose each of said filters in an optical pathway between said lens and said optical detector.

5. (Original) The system of claim 4 wherein said plurality of separate filters comprises first, second, third and fourth filters having pass bands centered around center wavelengths of 700 nm, 800 nm, 900 nm, and 1000 nm, respectively.

6. (Original) The system of claim 5 wherein the pass band of each of said first, second, third and fourth filters is +/- 20 nm from the center wavelength thereof.

7. (Original) The system of claim 4 wherein each said separate filter comprises glass retained within a metal ring.

8. (Original) The system of claim 7 wherein said separate filters are coupled with said switching device by a hinge attached to said metal ring, said switching device being operable to pivot said filters about said hinge in order to selectively interpose said filters into said optical pathway.

9. (Original) The system of claim 1 wherein said filter comprises:

filter pane interposed in an optical pathway between said lens and said optical detector, said filter pane providing a pass band having a center wavelength that is adjustable over a range of wavelengths in response to a voltage level applied thereto.

10. (Original) The system of claim 9 wherein the range of wavelengths over which the center wavelength of the pass band of said filter pane is adjustable ranges from a center wavelength of 700 nm to a center wavelength of 1000 nm.

11. (Original) The system of claim 10 wherein the pass band of said filter pane comprises +/- 20 nm from the center wavelength thereof.

12. (Original) The system of claim 1 wherein said filter comprises:

a filter disk having a plurality of individual filter windows, each said filter window having a fixed pass band associated with a different center wavelength, said disk being configured for rotation about an axis thereof to interpose a selected one of said filter windows in an optical pathway between said lens and said optical detector.

13. (Original) The system of claim 12 wherein the center wavelengths of the pass

bands of said filter windows vary from a shorter wavelength to a longer wavelength in predetermined increments.

14. (Original) The system of claim 13 wherein the shorter wavelength is 700 nm, the longer wavelength is 1000 nm, and the predetermined increments are 10 nm.

15. (Original) The system of claim 12 wherein the pass band of each said filter window comprises +/- 20 nm from the center wavelength thereof.

16. (Original) The system of claim 1 wherein said filter comprises:

a filter disk having a pass band associated with a center wavelength that varies in a continuous manner proceeding around a circumference of said disk, said disk being configured for rotation about an axis thereof to interpose a different section of said filter disk in an optical pathway between said lens and said optical detector.

17. (Original) The system of claim 16 wherein the center wavelength of the pass band of said filter disk varies from a shorter wavelength to a longer wavelength in a predetermined increment over a predetermined distance measured along the circumference of said filter disk.

18. (Original) The system of claim 17 wherein the shorter wavelength is 700 nm, the longer wavelength is 1000 nm, the predetermined increment is 1.2 nm and the predetermined distance is 1 degree of arc.

19. (Original) The system of claim 16 wherein the pass band of said filter disk comprises +/- 5 nm from the center wavelength thereof.

20. (Original) The system of claim 1 wherein said optical detector comprises a charge-couple-device.

21. (Original) The system of claim 1 wherein said control device comprises a microprocessor.

22. (Original) The system of claim 21 wherein said microprocessor selects the desired pass band based on at least one of an ambient visible light level and an ambient infrared light level.

23. (Original) The system of claim 22 further comprising:
a visible light sensor operable to measure the ambient visible light level; and
an infrared light sensor operable to measure the ambient infrared light level.

24. (Currently Amended) The system of claim 23 ~~further comprising an infrared illumination source operable~~ wherein said infrared illumination source is operated to transmit infrared optical energy in the direction of the subject when the ambient infrared light level measured by said infrared light sensor is determined by said microprocessor to be insufficient.

25. (Original) The system of claim 21 wherein said lens comprises an auto-focus lens controllable by said microprocessor, and wherein said microprocessor adjusts said auto-focus lens in order to focus the image of the subject on said optical detector based on a distance between said auto-focus lens and the subject.

26. (Original) The system of claim 25 further comprising a distance sensor operable to measure the distance between said auto-focus lens and the subject.

27. (Original) The system of claim 21 wherein said microprocessor is operable to convert the electrical signal generated by said optical sensor into a video signal.

28. (Original) The system of claim 27 further comprising at least one video connector for outputting the video signal via a wired connection.

29. (Original) The system of claim 27 further comprising a wireless transmitter for outputting the video signal via a wireless connection.

30. (Original) The system of claim 29 wherein said wireless transmitter comprises an 802.11 wireless transmitter.

31. (Currently Amended) A method of obtaining an infrared image of a subject, said method comprising the steps of:

measuring an ambient infrared light level;

operating an infrared illumination source to transmit infrared optical energy in the direction of the subject when the measured ambient infrared light level is insufficient;

collecting optical energy conveyed from the subject;

selecting a desired one of a plurality of pass bands associated with a filter, wherein each pass band has a center wavelength associated therewith, the center wavelengths being within an infrared portion of the electromagnetic spectrum;

filtering the collected optical energy in accordance with the selected pass band of the filter; and

generating an electrical signal representing an image of the subject from the filtered optical energy.

32. (Currently Amended) The method of claim 31 wherein said step of selecting includes the steps of:

measuring an ambient visible light level;

~~measuring an ambient infrared light level;~~

choosing a pass band based on at least one of the measured ambient visible light level and the measured ambient infrared light level.

33. (Canceled)

34. (Original) The method of claim 31 further comprising:

converting the electrical signal to a video signal; and

transmitting the video signal via a wired communications link.

35. (Original) The method of claim 31 further comprising:

converting the electrical signal to a video signal; and

transmitting the video signal via a wireless communications link.

36. (Original) The method of claim 31 wherein said step of selecting includes the step of:

sending a control signal to a switching system directing the switching system to interpose one of a plurality of separate filters having fixed pass bands in an optical pathway between a lens employed in said step of collecting and an optical detector employed in said step of generating.

37. (Original) The method of claim 31 wherein said step of selecting includes the step of:

applying a necessary voltage level to a filter pane interposed in an optical pathway between a lens employed in said step of collecting and an optical detector employed in said step of generating to adjust the filter pane to provide the desired pass band.

38. (Original) The method of claim 31 wherein said step of selecting includes the step of:

rotating a filter disk having a plurality of individual fixed pass band filter windows associated with a different center wavelengths to interpose an appropriate one of the filter windows in an optical pathway between a lens employed in said step of collecting and an optical detector employed in said step of generating.

39. (Original) The method of claim 31 wherein said step of selecting includes the step of:

rotating a filter disk having a pass band associated with a center wavelength that varies in a continuous manner proceeding around a circumference of the disk to interpose an appropriate section of the filter disk in an optical pathway between a lens employed in said step of collecting and an optical detector employed in said step of generating.

40. (Currently Amended) An infrared camera system comprising:

a lens configured to collect optical energy conveyed from a subject;

a filter providing a pass band associated with a center wavelength within an infrared portion of the electromagnetic spectrum, said filter being operable to pass filter optical energy collected by said lens in accordance with its pass band;

an optical channel between said lens and said filter;

an optical detector operable to generate an electrical signal representing an image of the subject in response to optical energy collected by said lens, directed though said optical channel to said filter, pass filtered by said filter in accordance with the pass band of said filter, and subsequently incident on said optical detector; and

a micro-transmitter operable to transmit the electrical signal via at least one of a wired communications link and a wireless communications link~~.~~;

wherein said lens, filter, optical channel, optical detector and micro-transmitter are mounted on one of a pair of glasses and a vest wearable by a person.

41. (Currently Amended) The system of claim 40 wherein said optical channel comprises a shielded fiber optic cable.

42-43. (Canceled)

44. (Original) The system of claim 40 wherein a focal length of said lens is fixed.

45. (Original) The system of claim 40 wherein the pass band of said filter is fixed.

46. (Original) The system of claim 40 wherein said optical detector comprises a charge-couple-device.

47. (New) An infrared camera system comprising:

a lens configured to collect optical energy conveyed from a subject;

a filter providing a plurality of pass bands associated with different center wavelengths within an infrared portion of the electromagnetic spectrum, said filter being operable to pass filter optical energy collected by said lens in accordance with any selected one of its plurality of pass bands, said filter comprising a filter disk having a pass band associated with a center

wavelength that varies in a continuous manner proceeding around a circumference of said disk, said disk being configured for rotation about an axis thereof to interpose a different section of said filter disk in an optical pathway between said lens and said optical detector, wherein the center wavelength of the pass band of said filter disk varies from a shorter wavelength to a longer wavelength in a predetermined increment over a predetermined distance measured along the circumference of said filter disk, and wherein the shorter wavelength is 700 nm, the longer wavelength is 1000 nm, the predetermined increment is 1.2 nm and the predetermined distance is 1 degree of arc;

an optical detector operable to generate an electrical signal representing an image of the subject in response to optical energy collected by said lens, pass filtered by said filter in accordance with a desired pass band selectable from among the plurality of pass bands, and subsequently incident on said optical detector; and

a control device operable to select the desired pass band from among the plurality of pass bands provided by said filter.